

# Leading Instructional Practices in a Performance-based System

This manuscript has been peer-reviewed, accepted, and endorsed by the National Council of Professors of Educational Administration (NCPEA) as a significant contribution to the scholarship and practice of school administration and K-12 education.



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*Given the shift to Common Core, educational leaders are challenged to see new directions in teaching and learning. The purpose of this study was to investigate the instructional practices which may be related to the effectiveness of a performance-based system (PBS) and their impact on student achievement, as part of a thematic set of dissertations that examined different aspects of a PBS system in three separate school systems in different areas of the continental US. This specific study examined the role of instructional strategies in implementing and sustaining a performance-based system in order to better understand how instructional strategies can improve the implementation of an innovative school reform as well as support a sustainable outcome that improves student academic achievement. In the study, a questionnaire was utilized to measure instructional strategy perceptions. Next, instructional strategy actions and perceptions were explored through face-to-face focus groups with participants. Finally, classroom observations were conducted to determine which components of instructional practices are commonly used in a PBS. The design for this mixed method study integrated both qualitative and quantitative methods.*

*The results of the study indicated that there were some differences in the perceptions and usage of instructional practices across grade levels and districts. It was found the participants believed that the individualized nature of a PBS along with instilling student self-motivation is what promotes student achievement, not the use of specific instructional practices.*

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## **Introduction**

As school leaders across the county are being challenged by the move to Common Core State Standards and the higher level thinking skills that these standards demand, new forward-thinking approaches towards education are being implemented. This study explored three school districts across the United States that utilize the forward-thinking approach of a performance-based educational system (PBS). The districts that were examined were given the pseudonyms of Central District, East District, and South District based on their continental US geographical location. As part of a thematic dissertation that examined multiple aspects of PBS, this study analyzed the extent to which direct instruction, collaborative learning, project-based learning, inquiry-based, and other instructional practices are used in a PBS system and their perceived impact on student academic achievement.

The variables in this study were instructional practices, perceptions, and actions regarding implementation of PBS. This study utilized a mixed-method approach to research and analyzed findings pertinent to the research questions using descriptive survey research, qualitative methods, and quantitative data analysis. Qualitatively and quantitatively, survey questions as part of the larger, thematic dissertation survey, accounted for a portion of the data analyzed. The other portions included qualitative interview data for further identification and analysis of the findings from the survey. In addition, observations of instructional strategies were observed in fourth and ninth grade classrooms in the three districts.

The following research question(s) were addressed:

1. To what extent do teachers use direct instruction practices in their classroom in a PBS?
  - a. When do teachers use direct instruction practices?
2. To what extent do teachers use collaborative learning practices in their classroom in a PBS?
  - a. When do teachers use collaborative learning practices?
3. To what extent do teachers use project-based learning practices in their classroom in a PBS?
  - a. When do teachers use project-based learning practices?
4. To what extent do teachers use inquiry-based learning practices in their classroom in a PBS?
  - a. When do teachers use inquiry-based learning practices?
5. What are teacher's perceptions of the effectiveness of various instructional practices on student learning in a PBS classroom?

## **Review of Literature**

Performance based education is a student-centered approach to learning in which students are informed of their learning targets in advance. In a performance-based system, every student works at their individualized performance level and advances through curriculum that is designed to meet their individual learning styles only when they have demonstrated proficiency of the required knowledge or skills (LUSD, 2012). Much of the research surrounding PBS is often referred to as competency-based learning, and was produced many years ago. There are a variety of educational models that have a great deal in common with PBS including competency-

based, mastery learning, and outcomes-based. Of importance is that their relationship contrasts drastically with a traditional model of education prevalent in today's American schools (Johnson, 1974; Marzano, 1994; Patrick & Sturgis, 2011; Priest et al., 2012).

The various types of instructional practice models reviewed were collaborative learning, project-based learning, inquiry-based learning, and direct instruction. Although not all elements of these instructional practice models directly align together, commonalities in (a) organization, (b) curriculum, (c) standards, organization, (d) time, grouping, (e) cognitive level, (f) mastery criteria, (g) assessment, (h) mode of instruction, (i) teacher's role, and (j) authenticity are closely correlated to that of a Performance-based System (Johnson, 1974; Marzano, 1994; Patrick & Sturgis, 2011; Priest et al., 2012).

Collaborative learning was first reviewed for impact on student achievement. Slavin (1995) concluded that collaborative learning increased student achievement test scores by about one fourth of a standard deviation. Similarly, Qin, Johnson, and Johnson (1995) found that collaborative learning increases achievement outcomes and increases students' problem solving skills. Johnson and Johnson (2009) also determined that the collaborative learning increases students' academic achievement, learning behaviors, interpersonal relationships, and psychological well-being.

Project-based learning was then reviewed for impact on student achievement. Academic research supported the use of project-based learning as a way to help students cut absenteeism, boost collaborative learning skills, and improve test scores (Hitz & Scanlon, 2001). Tassinari, Wolk, and Worthy (2002) found there was a substantial body of research that had documented how students were more motivated when they were able to make decisions about what they will learn and how they will learn the material. In addition, Grant (2002) concluded that students maintained greater interest in their education when they were given the ability to make decisions about their education. Furthermore, project-based learning helps students become self-motivated and get engaged in their learning (Wasserstein-Warnet & Klein, 2002). The integration of improved lesson delivery specified to meet the needs of every student and student centered autonomy are the components of project-based learning that significantly assist students make academic progress who are below desired achievement levels (Marzano, 2000).

Inquiry-based learning was next reviewed for impact on student achievement. Research conducted by Esler and Sciortino (1991) substantiate the claim that students exposed to the inquiry-based learning curriculum tend to perform better in the classroom and on standardized tests. Research findings have found that students who receive instruction in inquiry-based classrooms throughout elementary school attain higher academic achievement test scores than students who receive traditional methods of classroom instruction (Smith, Lee, & Newmann, 2001). A study conducted by Nie and Lau (2010) indicated that with the use of the inquiry-based approach, students were able to process information, took ownership in the learning process, and improved academically.

Direct instruction was also reviewed for impact on student achievement. In the 1970s, one of the largest educational studies ever, entitled Project Follow Through, was undertaken (Watkins, 1977). The results of the study indicated that direct instruction performed better than other programs in core content areas and significantly improved cognitive skills, compared to control groups. In addition the study found direct instruction as the most successful school reform model to satisfy the needs of the largest number of students. The results thoroughly support the study's claims of success in closing achievement gaps (Watkins, 1977).

A review of the Sheltered Instruction Observation Protocol (SIOP), as a subset of direct instruction, was also completed and student achievement results from this subset were also reviewed. Using a quasi-experimental design, a multi-year study found that lesson planning, self-monitoring and the awareness of how to integrate language into content classes were improved (Echevarria & Short, 2000). The second part of the seven-year study assessed the impacts that SIOP had on student academic achievement. Students who received SIOP instruction performed slightly higher on an expository writing task than students who were taught by traditional methods (Echevarria et al., 2006).

## **Method**

The variables in this study were instructional practices perceptions and actions regarding implementation of PBS. This study utilized a mixed-method approach to research and analyze findings pertinent to the research questions using descriptive survey research, qualitative methods, and quantitative data analysis. Qualitatively and quantitatively, survey questions as part of the larger, thematic dissertation survey, accounted for a portion of the data analyzed. The other portions included qualitative interview data for further identification and analysis of the findings from the survey. In addition, observations of instructional strategies were observed in fourth and ninth grade classrooms in three districts.

Using a mixed-method design offered triangulation, complementary methods, and quantitative analysis informed qualitative research, phased for initiation of further questioning, and allowed the researcher to explore the results (Greene, Caracelli, & Graham, 1989). This study used a mixed-methods sequential explanatory design, which consisted of three phases (Creswell & Plano-Clark, 2007). In phase 1, the survey results were coded and analyzed for frequency and through a One Way ANOVA measured to identify if there were any significant differences between the mean scores of the school sites. The survey also included qualitative, free-response questions. The qualitative data collected were analyzed to further identify common themes and patterns. Based on the analysis of collected data from the survey in the first phase, interview questions were developed to gain a deeper understanding of the survey results (Tashakkori & Teddlie, 1998). In phase 2, the focus groups were conducted. The focus group transcriptions were open coded and then axial coded for common themes and clarifying responses triangulated against survey analyses. In phase 3, observations were conducted within randomized classrooms among the different PBS schools. The randomized samples included samples from all school sites and in grade levels 4 and 9. The instrument used for observation collection was an open response form to determine which instructional practices were seen in use in a PBS classroom. The classroom observational tool provided operational definition of specified instructional practices and helped to prevent bias collection and allow for equal comparisons across school sites and grade levels.

The triangulation occurred when data were taken from multiple sources to speak to one another. Therefore, data were complementary in that qualitative and quantitative portions informed one another. Finally, the observational data were collected to allow for richer research, and organized collection (Greene et al., 1989).

## **Participants**

Participants in this study were the certificated staff in the three districts which provide academic instruction to students at the identified schools utilizing a performance-based system of education. The districts were located in different areas of the United States that utilized a performance-based system. The districts were given the pseudonyms of East, South, and Central, based on their geographical location, for ease of identification.

## **Results**

Specific areas that were explored in this study included the instructional practices of direct instruction, collaborative learning, project-based learning, and inquiry-based learning. The primary focus of this study was on instructional practices within a PBS system. Given the fact that research has shown the effectiveness of the previously mentioned instructional practices in a traditional school environment, this study examined the effectiveness of such strategies within a PBS system.

Three instruments were used to collect data for this study. The electronic survey was the instrument for all four dissertations involved in the PBS thematic dissertation, but only the highlighted questions indicate those that were used for this study. A 5-point Likert-type scale survey was used to collect data on the degree to which teachers implement each of the following instructional practices: direct instruction, collaborative learning, and project-based learning. Cronbach's Alpha coefficient was calculated to determine the overall construct of the internal consistency of the PBS survey instrument.

The results to the electronic survey informed participant selection for the individual and focus group interviews for further qualitative data collection. In addition, observations were conducted to determine the extent that specified instructional practices are in place in classrooms.

Classroom observations were completed through a representative sample to ensure that classrooms were observed on each school site and across the participating districts. The observational tool was used to collect both quantitative and qualitative data on instructional practices within PBS. The classroom observation protocol was created to be open ended and to record the amount of students that are engaged in the instructional practices of direct instruction, inquiry-based learning, project-based learning, direct instruction, collaborative learning, as well as any other instructional practices observed during a classroom observation. Four researchers were trained how to use the observational protocol to allow for inter-rater reliability of data recorded. The research team conducted 15-minute classroom observations in groups of two or more to ensure inter-rater reliability. After each classroom observation, the researchers met and discussed recorded results to ensure accuracy and consistency. The classroom observational data was then coded and transcribed. Qualitative and quantitative measures were used to analyze the collected data.

## **Survey and Classroom Observation Results**

Direct instruction quantitative and qualitative data analysis found the following. Through examining frequency data from 206 classrooms in the three school districts, it was determined that direct instruction was used Fairly Often (40.8%). Specifically, more than 60% of

respondents used direct instruction for more than 40% of their instruction. The one-way analysis of variance (ANOVA) of the perceived use of direct instruction between districts was statistically significant, ( $p = .029$ ). A Tukey Post Hoc analysis was performed resulting in a statistically significant difference between East and South ( $p < .05$ ,  $p = 0.021$ ) districts. In addition, the perceived estimated percent of use of direct instruction between districts ( $p=.008$ ) and grade levels ( $p=.020$ ) were statistically significant. It was found that direct instruction practices were most commonly used for the purpose of presenting new materials (92.2%). An analysis of the perceptions of when direct instruction is used to reteach learning objectives was statistically significant across districts ( $p < .001$ ) and found statistically significant differences between East and South districts ( $p < .001$ ) and Central and South districts ( $p=.001$ ). According to classroom observational data, the most commonly used component of direct instruction was that classroom teachers posted the learning objective for their students. This component of direct instruction was observed in 37% of classroom observations.

Collaborative learning quantitative and qualitative data analysis found the following. Examination of frequency data found that collaborative learning was used fairly often (40.8%). Specifically, more than 65% of respondents used collaborative learning for more than 40% of their instruction. The analysis of the perceived estimated percent of use of collaborative learning between districts ( $p<.001$ ) was statistically significant. It was found that collaborative learning practices were most commonly used for the purpose of presenting new materials (92.2%). An analysis of the perceptions of when collaborative learning is used to reteach learning objectives were statistically significant between districts ( $p=.007$ ) and found statistically significant differences between Central and South ( $p=.025$ ) districts. According to classroom observational data, the most commonly used component of collaborative learning was small groups of students working together (48.1%).

Project-based learning can be implemented differently in various settings and multiple components of instruction make up project-based learning. For the purpose of this research, project based learning was defined as the use of both active and self-directive instructional components. Quantitative and qualitative data analysis found the following for active instructional practices in a PBS. Through examining frequency data, it was found that active learning instructional practices were most commonly used fairly often (38.3%). Specifically, more than 60% of respondents used active learning instructional practices for 21-60% of their instruction. The analysis of the perceived use of active learning instructional practices between districts was statistically significant ( $p < .001$ ). An analysis of the perceived percent of use of active learning instructional practices was not statistically significant between districts ( $p=.065$ ) or grade levels ( $p=1.000$ ). The findings indicated that active learning instructional practices were most commonly used for the purpose of creating deeper understanding (84.1%). An analysis of the perceptions of when active learning instructional practices are used to create a deeper understanding was statistically significant between districts ( $p=.035$ ) and found statistically significant differences between Central and South ( $p=.028$ ) districts. According to classroom observational data, all components of active learning were observed equally (3.7%).

Self-directed instructional practices quantitative and qualitative data analysis found the following. Through examining frequency data, it was found that self-directed instructional practices were used sometimes (37.4%). Specifically, more than 65% of respondents used self-directed instructional practices for 0-40% of their instruction. An analysis of the perceived estimated percent of use of self-directed learning was statistically significant between districts ( $p=.020$ ) and found statistically significant differences between Central and South districts

( $p=.001$ ). The findings indicated that self-directed instructional practices were most commonly used for the purpose of creating deeper understanding (74.6%). The analysis of the perceived use of self-directed learning across districts was statistically significant,  $F(2, 205) = 3.966$  at a level of ( $p=.020$ ). A Tukey Post Hoc analysis was performed resulting in a statistically significant difference between East and Central ( $p=0.015$ ) districts. An analysis of the perceptions of when self-directed instructional practices are used was not significant between grade levels and districts for any purpose. According to classroom observational data, all components of self-directed learning were observed equally (3.7%).

According to classroom observational data, all components of project-based learning were recorded in solely one of the fourth grade classrooms in the East District. This one recorded observation accounted for 3.7% of classroom observations. However, survey data indicated that project-based instructional practice components were perceived to be used to create deeper understanding in 0-60% of classrooms by 83% of survey respondents.

Inquiry based instruction practices quantitative and qualitative data analysis found the following. Through examining frequency data, it was found that inquiry-based instructional practices were used sometimes (44.2%). Specifically, more than 70% of respondents used inquiry-based instructional practices for 0-40% of their instruction. The analysis of the perceived use of inquiry-based instructional practices across districts ( $p=.067$ ) was not statistically significant. It was found that inquiry-based instructional practices were most commonly used for the purpose of creating deeper understanding (71.9%). An analysis of the perceptions of when inquiry-based instructional practices are used was not statistically significant between grade levels and districts for any purpose. According to classroom observational data, the most commonly used component of inquiry-based instructional practices was teacher posing open-ended tasks and/or questions (31.5%). All of the inquiry-based instructional components were observed during 20-31.5% of classroom observations.

## **Focus Group and Interview Results**

In all teacher focus groups, administrator focus groups, and administrator interviews in the three districts, there was no mention of any other instructional practices aside from direct instruction, collaborative learning, inquiry-based learning, or project-based learning. In addition to qualitative data collected through focus groups and interviews, additional qualitative data were also collected through classroom observations by the researcher and a research team. Focus group participants were in agreement that what promotes student achievement in a PBS is not the specific instructional practices, but rather the demand for individualized and personalized instruction. Overall, teachers and administrators have the perception that the effectiveness of a PBS on student achievement is not based on different instructional strategies, but rather on motivating the learner to push on their own and become empowered.

## **Pearson $r$ Correlation Results**

Pearson  $r$  correlations was conducted to determine if there were relationships between the perceived extent that the participant and the teaching staff at their school site are able to influence academic achievement and the extent of use of the instructional practices of direct instruction, active instructional practices, collaborative instructional practices, inquiry instructional practices, and self-directive instructional practices.

Our analysis of the correlation data indicated there were several correlations between the use of instructional strategies and the teachers' perceived influences on student academic achievement or on the perceived influence of the staff's influence on student academic achievement. There was a positive, moderate correlation coefficient ( $r=.529, p < .01$ ) between the perceived influence that the staff has on academic achievement and the perceived influence that the teaching staff has on academic achievement.

Correlation results indicated there was a weak positive correlation ( $r=.182$ ), between inductive instructional practices and the perception of influence the individual has on student achievement. In addition, there was a weak correlation ( $r=.199$ ) between inductive instructional practices and the perception of influence the staff has on student achievement.

### **Breakdown of Instructional Practice Findings**

This study was designed to investigate instructional practices, which may be related to the effectiveness of a performance-based system (PBS) and their impact on student achievement, as part of a thematic dissertation that examined different aspects of a PBS system. Such investigation provided insights into the instructional practices that are used in a PBS system and their perceived impacts on student achievement. Table 1 displays a breakdown of the instructional practices studied during this research, the instructional practices most common frequency of use, the most common percent of use, the most common purpose of use, and the most commonly observed component during classroom observations. In addition, significance is displayed for district and grade level as identified from the quantitative data analysis.



Table 1  
Breakdown of Instructional Practice Findings

Instructional Practice	% of Use	Significance of % of Use	Purpose	Significance of Purpose	Observed Component
Direct Instruction	More than 40%	District (.008) Grade (.020)	Presenting new material (92.2%)	District (.000)	Posted learning objective (37%)
Collaborative	More than 40%	None	Presenting new material (92.2%)	District (.007)	Small groups of students working (48.1%)
Active	21-60%	None	Create deeper understanding (84.1%)	District (.035)	All Components Observed (3.7%)
Self-Directed	0-40%	District (.020)	Create deeper understanding (74.6%)	None	All Components Observed (3.7%)
Inquiry	0-40%	None	Create deeper understanding (71.9%)	None	Open ended tasks and/or questions (31.5%)

## Discussion and Implications

### Possible Reasons for Instructional Practice Data Discrepancies

When examining frequency data of instructional practices, many discrepancies were found between the different districts and grade levels. This could be caused by personal teacher instructional styles or educational leadership opinions about the specified instructional practices and their perceptions of when they should be used. Differences could have also been a result of the manner in which teachers were taught to use the specified instructional practices or of the district's professional development emphasis.

### Perceived Effectiveness of Various Instructional Practices

Correlation results indicated that there was a weak positive correlation ( $r=.182$ ) with a strong statistical significance ( $p=.01$ ) between inquiry-based instructional practices and the perception of influence the individual had on student achievement. In addition, there was a weak correlation ( $r=.199$ ) with a strong statistical significance ( $p=.01$ ) between inquiry-based instructional practices and the perception of influence the staff has on student achievement. Although there is strong significance, this suggests teachers do not perceive that inquiry-based instructional practices have a strong impact on student academic achievement. This finding is not in alignment with the literature reviewed.

Research conducted by Nie and Lau (2010) found that students who utilized the inquiry-based learning approach were able to process information at a higher cognitive level, took ownership in the learning process, and improved academically in the classroom and on their

academic achievement standardized assessments. Specifically, when teachers used open-ended questions during instruction and on classroom assessments, their students increased 4.3 points per month faster during ninth grade than students whose teachers used brief and/or close-ended questions. In addition, as the opportunities for student centered instruction increased, student learning rates increased by an average of 6.7 points per month (Nie & Lau, 2010). These results suggest that inquiry-based learning may be more effective than traditional teaching methods for raising student academic achievement in a performance-based system.

Next, correlation results indicated that there was a weak positive correlation ( $r=.192$ ) with a strong statistical significance ( $p=.01$ ) between collaborative instructional practices and the perception of influence the individual has on student achievement. In addition, there was a weak correlation ( $r=.193$ ) with a strong statistical significance ( $p=.01$ ) between collaborative instructional practices and the perception of influence the staff has on student achievement. Although there is strong significance, the weak correlation suggests teachers do not perceive that collaborative instructional practices have a strong impact on student academic achievement. This finding is not in alignment with the literature reviewed.

For instance, a meta-analysis conducted by Johnson and Johnson (1994) found differences in favor of collaborative learning conditions against both individual and competitive learning comparisons. Johnson and Johnson teamed up with Roseth for an updated meta-analysis of collaborative, competitive, and individualistic learning strategies (Roseth et al., 2008). Their synthesis of 148 primary studies showed advantages for collaborative learning instruction over competitive and individualistic learning conditions.

Finally, correlation results indicated that there was a weak positive correlation ( $r=.172$ ) with a statistical significance ( $p=.05$ ) between active instructional practices and the perception of influence the staff has on student achievement. Although there is statistical significance, this suggests that teachers do not perceive that active instructional practices have a strong impact on student academic achievement. This finding was not in alignment with the literature reviewed. Project-based learning integration has been found to inform and help improve instruction and student achievement, especially in the case of students performing significantly below desired levels of academic achievement (Marzano, 2000). Recent literature has validated the use of project-based learning as a means of helping students become self-motivated, get engaged in their learning, and improve academic achievement (Wasserstein, 2002).

There was a positive moderate correlation coefficient ( $r=.529$ ) with a strong statistical significance ( $p<.01$ ) between the perceived influence that the staff has on academic achievement and the perceived influence that the teaching staff has on academic achievement. This suggests that the staff does not strongly believe that they have an impact on student academic achievement and they do not share this opinion frequently with their staff members. In addition, none of the instructional practices had a strong correlation with their perceived impact of student achievement. The lack of correlation suggests that the staff does not perceive that various instructional practices have an impact on student achievement. Since, the performance-based system was designed to have the students as the key stakeholder and to remove the teacher from a facilitator role, teachers need to be instructed on their importance and impact in this new learning module. A lack of emphasis on teacher importance may account for a possible explanation of why teaching staff does not believe that they have an impact on academic achievement.

Focus group participants were in agreement that what promotes student achievement in a performance-based system isn't the specific instructional practices, but rather the use of

individualized and personalized instruction. Overall, participants perceived that the effectiveness of a PBS on student achievement is not based on different instructional strategies, but rather on motivating the learner to push on his or her own and become empowered. This finding is supported by the research's quantitative correlation data. It suggests that teachers do not perceive that their instructional practices have a strong impact on student academic achievement, but rather that student academic achievement may be a result of student efficacy. This could be an inherent result of the design of a performance-based system and its focus on student-driven learning modalities, motivation, and efficacy. The performance-based system is designed for students to take ownership of their learning experiences, thus promoting a sense of empowerment within these students. It is through student choice and empowerment that they gain content knowledge, rather than through explicit and direct instructional practices. However, these findings are not in alignment with the literature reviewed. Becker and Gersten (1982), during their longitudinal study, found that academic achievement was related to the exposure of instructional practices, guided practice, checking for understanding, and task clarity.

Overall, the research results were not in alignment with the literature reviewed. The literature included several studies which evaluated the effectiveness of direct instruction, inquiry-based learning, collaborative learning, and project-based learning and their impacts on student academic achievement. Such studies suggest that direct instruction, inquiry-based learning, collaborative learning, and project-based learning all have positive impacts on student academic achievement. However, the research conducted throughout this study of three different school districts utilizing a performance-based system found that teachers and administrators do not believe that such instructional practices have a strong impact on student academic achievement. However, it is important to note that the studies reviewed were conducted in a traditional school model of instruction rather than in a PBS model. This may account for some of the discrepancies in the research findings.

### **Future Research**

This study should be replicated after full implementation of Common Core State Standards. Classroom observations should be completed in all classrooms across all grades to investigate specific components of all instructional practices used in a PBS. Specific classroom observation data should then be correlated with academic achievement scores from the SmarterBalance student academic achievement results. Such research could further analyze the effectiveness of instructional practices on student academic achievement.

The results of this study also suggest that additional research would be of value to determine the exact components of each instructional practice that promotes academic achievement in a PBS. This research would help educational leaders determine best practices in a PBS and provide research for best practice implementation.

Based on correlation data, teachers did not feel that any instructional practices have a particularly strong effect on student achievement. The reason for this finding should be discussed throughout professional learning communities and steps should be taken to implement instructional practices that have a strong positive effect on student achievement. This finding could pave the way for implementing effective instructional practices that teachers feel have a strong effect on student achievement.

Based on focus group data, participants believe that the individualized nature of a PBS and instilling student self-motivation are the primary reasons for student achievement.

Discussions should be conducted to determine how these two components may be integrated and enhanced through the use of various instructional practices.

### **Concluding Remarks**

School leaders across the county are challenged by the move to Common Core State Standards and the higher level thinking skills that these standards demand. This study of school districts that chose to take a different approach prior to the Common Core State Standards may be of value to educational leaders and others. In education there are no high-yield instructional strategies; there are only high-probability strategies. The simple presence or absence of an instructional strategy does not define effectiveness, but it is rather the teacher's expertise in adapting that strategy to the classroom within the context of lesson segments that produces gains in student achievement (Marzano, 2008). In order for a PBS to remain sustainable, measures need to be taken to ensure instructional practices are having positive effects on student academic achievement. Although various instructional practices may have proven successful in a traditional school system, PBS is a new type of system with a new type of learning to meet the present day needs of students. These same principles apply to Common Core State Standard implementation. As such, educational leaders must be able to provide teachers the skillset required to adapt their instruction to this new way of learning to ensure positive gains in student achievement.

For educational leaders to provide teachers the skillset required to adapt their instruction, professional development opportunities need to be provided. The professional development opportunities need to be experimental, teacher-driven, collaborative, meaningful, sustainable, and integrated. Through the use of experimental learning opportunities teachers need be engaged in the concrete tasks of designing, implementing, managing, and assessing their own learning activities and projects. It is essential for teachers to observe other teachers' methods and skills during the experimental stage. This will allow teachers to develop their own questions and identify possible concerns with the new instructional methodology. To gain teacher buy-in, educational leaders should collaboratively build upon the collective experiences and expertise of teachers. The more that teachers are involved in the systematic change process, the more likely it is for teachers to begin to make the connections between their own work with students, their curriculum, and the new way of learning. Once a connected and collaborative framework is established, it is essential to provide teachers with intensive, ongoing support which includes modeling, coaching, mentoring, and collaborative problem solving with other teachers. These supports should be provided during all phases of professional development and implementation. Without these key supports being constantly and systematically provided to teachers, the initiative will not be sustainable (Triling & Fadel, 2009). To ensure sustainability, it is also essential for professional development to be integrated with other aspects of school reform and transformation which includes, but is not limited to aspects of curriculum, instruction, and assessments (Bybee & Starkweather, 2006).

For educational leaders to implement the systematic change towards this new way of learning, it is essential to design an implementation process. The implementation process needs to not be identified as an event, but rather a mission-oriented process that includes multiple decisions, actions, and corrections. Prior to beginning the implementation process, it is important to take into consideration that the implementation process takes time and is not something that can be properly implemented within a short timeframe (Bierman, Coie, Dodge, Greenberg,

Lochman, McMahon, et al., 2002; Fixsen, Blase, Timbers, & Wolf, 2001; Panzano & Roth, 2006; Saldana, Chamberlain, Wang, & Brown, 2012). A successful implementation process includes the stages of Exploration, Installation, Initial Implementation, and Full Implementation. It is essential to understand that the stages of implementation are not linear, but rather should allow for interaction to produce the most optimal results. During the Exploration stage it is important to assess readiness in a manner that allows all key stakeholders to explore the systematic change in-depth (Fixsen, et al., 2001). When assessing readiness it is essential to assess potential barriers to implementation (Prochaska, Prochaska, & Levesque, 2001). The results of these assessments will provide the essential information that should be built into an implementation plan. Once needs are identified and readiness is created, the Installation stage may then begin. During the Installation stage it is important to acquire or repurpose the resources that are needed to fully implement the systematic change. There are tasks that need to be accomplished during the Installation stage before any form of implementation begins. These tasks include creating an infrastructure to support the new systematic change, placing organization supports in place, and making instrumental changes. After the Installation stage comes the Initial Implementation stage which is where all components of the systematic change need to be in place. This is when the teachers and staff begin to implement the systematic change and when the implementation process is in the most fragile state (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005; Saldana et al., 2012). To ensure that the initial implementation is successful, teachers and staff must be provided with intensive, ongoing support which includes modeling, coaching, mentoring, and collaborative problem solving with other teachers. Without these key supports being constantly and systematically provided to teachers, the initiative will not be sustainable (Triling & Fadel, 2009). After the initial implementation becomes “standard and skillful practice,” the Full Implementation stage has been entered. During the Full Implementation stage, the educational leader needs to ensure that the systematic change is maintained and improved over time and through the transitions of staff members and stakeholders. In this manner, true change and progress toward a performance-based system can take place.

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